PCV3

ENOXAPARIN — A PHARMACOECONOMIC REVIEW OF ITS USE IN THROMBOEMBOLIC PROPHYLAXIS

Cal ML[1], Fabre N[2], Cal JC[2]
[1]Université Victor Segalen Bordeaux 2, Bordeaux cedex, France; [2]J2C Santé, Mérignac, France

OBJECTIVE: Enoxaparin is a low-molecular-weight heparin widely used in the prophylaxis and treatment of venous thromboembolism. This study critically reviews recent literature to determine the clinical conditions for which enoxaparin can be considered as a gold standard treatment from both outcome and cost standpoints.
METHODS: A Medline and current contents search for published pharmacoeconomic evaluations, from 1980 to present, was conducted. Abstracts were excluded. A large range of cost-effectiveness and cost-utility analyses were available, mainly comparing enoxaparin with unfractionated heparin (UFH) and warfarin, and taking into account the different dosage regimens (30 mg, 40 mg once or twice daily) currently recommended for durations ranging from 5 days to 3 months. Efficiency was often investigated on the basis of decision trees setting out clinical alternatives and probable events: deep vein thrombosis (DVT); pulmonary embolism (PE); major bleed; death. Clinical outcome data were extracted from selected randomized, controlled trials or meta-analyses. In most cases, direct costs were only estimated.
RESULTS: Enoxaparin was shown to be more efficient than UFH in the treatment of acute DVT in the hospital setting than warfarin for the short-term prophylaxis of thromboembolism in inpatients undergoing knee or hip replacement. Long-term enoxaparin therapy for outpatients was associated with better cost-effectiveness or cost-utility ratios than enoxaparin treatment in elective hip surgery. Moreover, enoxaparin emerged as a dominant strategy versus UFH therapy, yielding overall cost savings in outpatient extended prophylaxis for hip surgery; in general surgery and in outpatient treatment of acute proximal DVT.
CONCLUSION: There is now strong clinical and economic evidence that enoxaparin may be more effective than warfarin and UFH, perhaps safer than UFH, while reducing short-term costs of thromboembolic events but also the substantial long-term costs of post-thrombotic complications.

PCV4

ASSESSING THE IMPACT OF HYPERLIPIDEMIA TREATMENT WITH PRAVASTATIN AND SIMVASTATIN IN A LARGE COUNTY INSTITUTION

Walker CL[1], Milton-Brown J[2], Henry A[2], Lal LS[1]
[1]Texas Southern University, Houston, TX, USA; [2]Drug Information Center of Harris County Hospital District (HCHD), Houston, TX, USA

OBJECTIVE: The purpose of this study is to evaluate if a sample county-hospital population has achieved target cholesterol values, per National Cholesterol Education Program (NCEP) guidelines while on pravastatin or simvastatin therapy.
METHODS: A chart review of patients from eleven health-care facilities within the county was obtained for evaluation of current total cholesterol (TC), low density lipoprotein (LDL), high density lipoprotein (HDL) and triglyceride levels. The inclusion criteria consisted of patients who had undergone HMG-CoA reductase inhibitor therapy for at least six months. They were retrospectively evaluated to determine impact on lipid profile. Data collection included demographics such as, gender, race, and risk factors, in addition to the standard lipid profile.
RESULTS: Results are being reported for the initial 120 patients evaluated. On the average, post-treatment TC and LDL levels are 219 mg/dl and 136 mg/dl, respectively, in the sample population. Results indicate that only about 36% of the patients have reached target TC and LDL levels per NCEP guidelines while 64% of the patients were above target levels. Of the two agents evaluated, 75% of the patients on pravastatin reached treatment goals while only 26% of the patients on simvastatin reached treatment goals. African-Americans, after treatment, had the highest TC and LDL values. Overall, the patients had an average of three risk factors.
CONCLUSION: The preliminary study results indicate that a high percentage of county hospital patients have TC values $>$ 200 mg/dl and LDL values $>$130 mg/dl, even after therapy with an HMG-CoA reductase inhibitor. Patients with more than two risk factors and a LDL level greater than 130 mg/dl must be targeted for more aggressive pharmacotherapeutic management and be encouraged to make necessary lifestyle changes. Additional studies are needed to determine the effect of different pharmacological agents and ethnic influences on outcome.

PCV5

IMPACT OF NON-COMPLIANCE ON THE COST-EFFECTIVENESS OF STATIN THERAPY

Hughes DA, Bagust A
University of Liverpool, Liverpool, UK

OBJECTIVES: Non-compliance is a major problem in clinical practice and often leads to sub-optimal therapeutic response. This is particularly evident when effective treatment is available for a chronic, asymptomatic disease. In the present study, an evaluation of the impact of non-compliance on the clinical efficacy of antihyperlipidaemic drugs is made.
METHODS: An electronic search of the literature was conducted in order to identify trials and other reports that presented compliance data and clinical endpoints (reduction in LDL cholesterol). Assuming a class effect for the actions of HMG-CoA reductase inhibitors (statins), estimates of cost-effectiveness (cost per percentage reduction in LDL cholesterol) were made for individual drugs at the different compliance rates.

RESULTS: Non-compliance is a significant problem in managing hypercholesterolaemia. Discontinuation rates for statins in normal practice average 30% after six months. This results in a significant loss of therapeutic response. In the EXCEL study (lovastatin), a 41.3% reduction in LDL cholesterol was observed in those patients who reported taking all their tablets. This compared with a 26.6% reduction in those taking 80% of their tablets. In a primary-care setting, the discontinuation rate for pravastatin was 24% after two years. The reduction in LDL cholesterol was 6% compared to 26% in those continuing treatment. This results in a change in cost-effectiveness from £376 to £1754 per % LDL reduction per year.
CONCLUSIONS: Noncompliance is an important factor when assessing a drug's effectiveness in clinical practice. Tables comparing the cost-effectiveness of statins are often found in the medical literature, but rarely do they account for noncompliance. The present study illustrates the need to account for the impact of noncompliance in pharmacoeconomic evaluations.

PCV6

AVAPROMISE: A RANDOMIZED CLINICAL TRIAL FOR INCREASING COMPLIANCE THROUGH BEHAVIORAL MODIFICATION IN ESSENTIAL HYPERTENSION

Hamet P[1], Campbell N[2], Curnew G[3], Eastwood C[4], Pradhan A[5]
[1]Centre Hospitalier de l'Universite de Montreal, University of Montreal, Montreal, QC, Canada; [2]Health Sciences Centre, University of Calgary, Calgary, AB, Canada; [3]Hamilton General Hospital, Hamilton, ON, Canada; [4]BTB Associates, Ancaster, ON, Canada; [5]Bristol-Myers Squibb Canada, St. Laurent, QC, Canada

OBJECTIVE: Patients with hypertension are often noncompliant with their medication. A study was conducted in a usual clinical practice setting in patients with essential hypertension to improve medication compliance by modifying behavior.
METHODS: The trial was designed as a randomized, multi-center, open-label, two-arm study in patients with essential hypertension. Four thousand eight hundred sixty four patients recruited from general practice settings were randomized to receive the angiotensin-receptor blocker irbesartan with (intervention group) or without (non-intervention group) a behavioral modification program (Avapromise), which was based on a model of change, and followed up for 12 months. Randomization to Avapromise was done by site (recruiting physicians' office) such that all the patients within one site were randomized to the same treatment regimen to avoid contamination and to minimize investigator bias. Patients were sub-grouped based on their stage of change in the behavioral change continuum, and the intervention was tailored to address the needs of the particular sub-group. Primary efficacy measure was rate and time to discontinuation with irbesartan.
RESULTS: At the end of the study the total number of patient discontinuations was 1240 (25% of 4864). Of these, 611 (25.4%, 95% CI: 23.7–27.2) occurred in the intervention group and 629 (25.5%, 95% CI: 23.8–27.3) occurred in the non-intervention group. This resulted in a difference of −0.1% (−2.6 to 2.3) between the two groups ($p = 0.94$). The time to discontinuation was not different between the groups ($p = 0.87$). The extrapolated rate of discontinuation estimated from the Kaplan-Meier curve was also not different between the groups (intervention: 23.1%, 95% CI: 21.3–24.8; non-intervention: 23.5%, 95% CI: 21.8–25.3).
CONCLUSION: This behavioral modification intervention based on a model of change was not effective in increasing compliance rates in patients with essential hypertension in this setting.

PCV7

ENOXAPARIN — A PHARMACOECONOMIC REVIEW OF ITS USE IN ACUTE CORONARY SYNDROMES

Cal ML[1], Fabre N[2], Cal JC[2]
[1]Université Victor Segalen Bordeaux 2, Bordeaux cedex, France; [2] J2C Santé, Mérignac, France

OBJECTIVE: The development of low-molecular-weight heparins (LMWHs) as an antithrombin therapy for the management of acute coronary syndromes was prompted by the shortcomings of unfractionated heparin (UFH), the standard therapy. LMWHs, and especially the most widely used enoxaparin, offer the advantages of a stable and predictable anticoagulant response to a given dose, eliminating the need for haematologic monitoring, and much simpler administration via the subcutaneous route. However, enoxaparin should achieve improved clinical effectiveness and demonstrate economic attractiveness. The present review is an appraisal of the relative costs and benefits of enoxaparin versus UFH in acute cardiology.
METHODS: A growing number of papers have been addressing these questions during the last five years. Most of them are based on two worldwide multi-center, double-blind, randomized controlled trials, TIMI 11B and ESSENCE, involving patients with unstable angina/non-Q wave myocardial infarction. Efficiency was evaluated prospectively over the first 30 days of follow-up and retrospectively after one year of follow up, using cost-effectiveness approach. Only direct costs were measured.
RESULTS: Enoxaparin was shown to be a dominant strategy. It clearly improved efficacy and tolerability versus UFH, providing an absolute risk reduction of death, myocardial infarction and recurrent angina of 3.7% to 3.5% at more or less short term. Average cost per patient was significantly lower due to reduced frequency of diagnostic catheterization, revascularization procedures, angiography, coronary angioplasty and shorter length of hospital stay over the first 30 days. Cost reduction arose, on the long term, from less rehospitalizations and revascularizations. Moreover, those reductions were probably underestimated as indirect costs were not considered.